PROCOM

VENT-FREE GAS SYSTEM

OWNER'S OPERATION AND INSTALLATION MANUAL

MODELS
FBD400RTCC-M-HC/MO
FBD400TCC-M-HC/MO

PFS® US

⚠ WARNING: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

- **Do not store or use gasoline or other flammable vapors and liquids in the vicinity of this or any other appliance.**
- **WHAT TO DO IF YOU SMELL GAS**
  - **Do not try to light any appliance.**
  - **Do not touch any electrical switch; do not use any phone in your building.**
  - **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
  - **If you cannot reach your gas supplier, call the fire department.**
- **Installation and service must be performed by a qualified installer, service agency or the gas supplier.**

⚠ WARNING: This appliance is equipped for natural and propane/LP gas. Field conversion is not permitted other than between natural or propane.LP gases.

Questions, problems, missing parts? Before returning to your retailer, call our customer service department at 1-866-573-0674, 8:00 am - 4:30 pm CST, Monday through Friday or email customerservice@usaprocom.com

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SAVE THIS BOOK

INSTALLER: Leave this manual with the appliance.
CONSUMER: Retain this manual for future reference.

This is an unvented gas-fired heater. It uses air (oxygen) from the room in which it is installed. Provisions for adequate combustion and ventilation air must be provided. Refer to *Air for Combustion and Ventilation* section on page 7 of this manual.

⚠ WARNING: Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for correct installation and operational procedures. For assistance or additional information consult a qualified installer, service agency or the gas supplier.

This appliance may be installed in an aftermarket,* permanently located, manufactured (mobile) home, where not prohibited by local codes.

This appliance is only for use with propane or natural gas. This appliance is equipped with a simple means to switch between propane and natural gas. Field conversion by any other means including the use of a kit is not permitted.

*** Aftermarket: Completion of sale, not for purpose of resale, from the manufacturer.**

IMPORTANT: Read this owner's manual carefully and completely before trying to assemble, operate, or service this heater. Improper use of this heater can cause serious injury or death from burns, fire, explosion, electrical shock and carbon monoxide poisoning. Failure to follow these instructions will void the warranty.

Only a qualified installer, service agent, or local gas supplier may install and service this product.

⚠ WARNING: Keep the appliance area clear and free from combustible materials, gasoline, and other flammable vapors and liquids.

This appliance is only for use with the type of gas indicated on the rating plate. This appliance is not convertible for use with other gases.

⚠ DANGER: Carbon monoxide poisoning may lead to death!

Carbon Monoxide Poisoning: Early signs of carbon monoxide poisoning resemble the flu, with headaches, dizziness or nausea. If you have these signs, the heater may not be working properly. Get fresh air at once! Have heater serviced. Some people are more affected by carbon monoxide than others. These include pregnant women, people with heart or lung disease or anemia, those under the influence of alcohol and those at high altitudes.

Natural And Propane/LP Gas: Natural and Propane/LP gas are odorless. An odor-making agent is added to the gas. The odor helps you detect a gas leak. However, the odor added to the gas can fade. Gas may be present even though no odor exists.

⚠ WARNING: Any change to this heater or its controls can be dangerous.

⚠ WARNING: Do not use a blower insert, heat exchange insert or other accessory not approved for use with this heater.

⚠ WARNING: Do not allow fans to blow directly into the heater. Avoid any drafts that alter burner flame pattern including ceiling fans. Altered burner patterns can cause sooting.

⚠ WARNING: Do not place clothing or other flammable material on or near the appliance. Never place any objects in the heater.

⚠ WARNING: Due to high temperatures, the appliance should be located out of traffic and away from furniture and draperies.

⚠ WARNING: Heater becomes very hot when running. Keep children and adults away from hot surfaces to avoid burns or clothing ignition. Heater will remain hot for a time after shutoff. Allow surfaces to cool before touching.

⚠ WARNING: Carefully supervise young children when they are in the room with the heater.

⚠ WARNING: Make sure a fireplace screen is in place before running heater.

1. Do not place Propane/LP supply tank(s) inside any structure. Propane/LP supply tank(s) must be placed outdoors.
2. This heater should not be installed in a bedroom or bathroom.
3. This heater needs fresh air ventilation to run properly. This heater has an Oxygen Depletion Sensing (ODS) safety shutoff system. The ODS shuts down the heater if not enough fresh air is available. See *Air for Combustion and Ventilation*, pages 7 through 9. If heater keeps shutting off, see *Troubleshooting*, page 27.
4. Keep all air openings in front and bottom of heater clear and free of debris. This will ensure enough air for proper combustion.
5. If heater shuts off, do not relight until you have provided fresh, outside air. If heater keeps shutting off, have it serviced.
6. Do not run heater:
   - Where flammable liquids or vapors are used or stored.
   - Under dusty conditions.
7. Before using furniture polish, wax, carpet cleaner, or similar products, turn heater off. If heated, the vapors from these products may create a white powder residue within burner box or on adjacent walls or furniture.
8. Always run heater with control knob at PILOT/IGN, LOW or HIGH locked positions. never set control knob between locked positions. Poor combustion and higher levels of carbon monoxide may result.
9. Do not use heater if any part has been under water. Immediately call a qualified service technician to inspect the room heater and to replace any part of the control system and any gas control which has been under water.
10. Turn off and unplug heater and let cool before servicing. Only a qualified service person should service and repair heater.
11. Operating heater above elevations of 4,500 feet could cause pilot outage.
12. To prevent performance problems, do not use propane/LP fuel tank of less than 100 lbs. capacity.
13. Do not use this heater as a wood-burning heater. Use only the logs provided with the heater.
14. To prevent the creation of soot, follow the instructions under *Care and Maintenance* page 23.
15. Do not add extra logs or ornaments such as pine cones, vermiculite, or rock wool. Using these added items can cause sooting. Do not add lava rock around base. Rock and debris could fall into the control area of heater. After servicing, always replace screen before operating heater.
16. This log heater is designed to be smokeless. If logs ever appear to be smoking, turn off heater and call a qualified service technician. *NOTE: During initial operating, slight smoking could occur due to log curing and heater burning off manufacturing residues.*
17. Solid fuels should not be burned in fireplace in which a vent-free log set is installed. Do not use this heater to cook food or burn paper or other objects.
18. Do not use this heater if any log is broken. Do not operate heater if a log is chipped (dime-size or larger).

SPECIFICATIONS

MODELS	FBD400TCC-M-HC/MO	
Gas Type	Natural	Propane/LP
Maximum Input Rating	32,000 BTU/Hr	32,000 BTU/Hr
Minimum Input Rating	14,500 BTU/Hr	24,500 BTU/Hr
Regulator Pressure Setting	4" W.C.	9" W.C.
Inlet Gas Pressure* (inches of water)	Max. 10.5" W.C.	Max. 14" W.C.
	Min. 5" W.C.	Min. 11" W.C.

MODELS	FBD400RTCC-M-HC/MO	
Gas Type	Natural	Propane/LP
Maximum Input Rating	32,000 BTU/Hr	32,000 BTU/Hr
Minimum Input Rating	N/A	N/A
Regulator Pressure Setting	4" W.C.	9" W.C.
Inlet Gas Pressure* (inches of water)	Max. 10.5" W.C.	Max. 14" W.C.
	Min. 5" W.C.	Min. 11" W.C.

* For purposes of input adjustment.

ALL MODELS	
Ignition	Electronic Piezo Ignitor
Heater Dimensions (H x W x D)	29.5" x 29.1" x 15.6"
Carton Dimensions (H x W x D)	31.1" x 31.5" x 18.1"
Stove Weight	69.5 lbs.
Shipping Weight	79.5 lbs.

QUALIFIED INSTALLING AGENCY

Only a qualified agency should install and replace gas piping, gas utilization equipment or accessories, and repair and equipment servicing. The term “qualified agency” means any individual, firm, corporation, or company that either in person or through a representative is engaged in and is responsible for:

a) Installing, testing, or replacing gas piping or

b) Connecting, installing, testing, repairing, or servicing equipment; that is experienced in such work; that is familiar with all precautions required; and that has complied with all the requirement of the authority having jurisdiction.

PRODUCT FEATURES

SAFETY PILOT

This heater has a pilot with an Oxygen Depletion Sensing (ODS) safety shutoff system. The ODS/pilot shuts off the heater if there is not enough fresh air.

PIEZO IGNITION SYSTEM

This heater is equipped with an electronic piezo control system. This system requires AAA batteries (provided).

THERMOSTAT HEAT CONTROL

The control automatically cycles the burner on and off to maintain a desired room temperature.

2 GAS OPTIONS AVAILABLE

Your heater is equipped to operate on either Propane/LP or Natural gas. The heater is shipped from the factory ready for connecting to Propane/LP. The heater can easily be changed to Natural gas by having your qualified installer follow the instructions on page 11 and the markings on the heater.

PRODUCT IDENTIFICATION

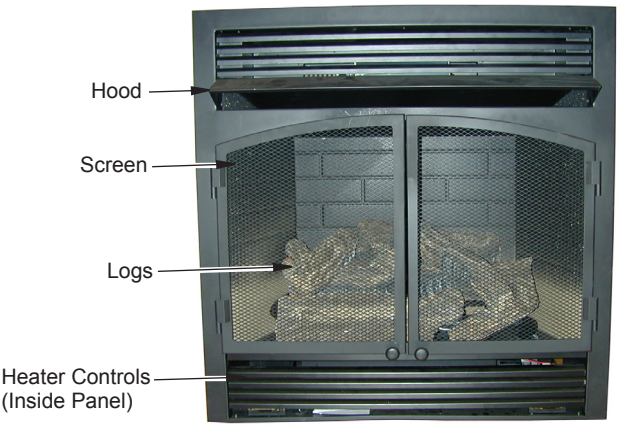


Figure 1 - Vent-Free Fireplace Insert

UNPACKING

1. Remove top inner pack.
2. Tilt carton so that heater is upright.
3. Remove protective side packaging.
4. Slide heater out of carton.
5 Remove protective plastic wrap.
6. Hold the screen, lift, and pull forward.
7. Remove log set by cutting plastic ties.
8. Carefully unwrap log.
9. Check for any shipping damage. If heater or log is damaged, promptly inform your dealer where you bought the heater.

LOCAL CODES

Install and use heater with care. Follow all local codes. In the absence of local codes, use the latest edition of *The National Fuel Gas Code, ANSI Z223.1/NFPA 54**.

*Available from:

American National Standards Institute, Inc.
1430 Broadway
New York, NY 10018

National Fire Protection Association, Inc.
1 Batterymarch Park
Quincy, MA 02269-9101

State of Massachusetts: The installation must be made by a licensed plumber or gas fitter in the Commonwealth of Massachusetts.

Sellers of unvented propane or natural gas-fired supplemental room heaters shall provide to each purchaser a copy of 527 CMR 30 upon sale of the unit.

In the State of Massachusetts the gas cock must be a T-handle type. The State of Massachusetts requires that a flexible appliance connector cannot exceed three feet in length.

WATER VAPOR: A BY-PRODUCT OF UNVENTED ROOM HEATERS

Water vapor is a by-product of gas combustion. An unvented room heater produces approximately one (1) ounce (30 mL) of water for every 1,000 BTUs (0.3 KWs) of gas input per hour. Unvented room heaters are recommended as supplemental heat (a room) rather than a primary heat source (an entire house). In most supplemental heat applications, the water vapor does not create a problem. In most applications, the water vapor enhances the low humidity atmosphere experienced during cold weather.

The following steps will help ensure that water vapor does not become a problem.

1. Be sure the heater is sized properly for the application, including ample combustion air and circulation air.
2. If high humidity is experienced, a dehumidifier may be used to help lower the water vapor content of the air.
3. Do not use an unvented room heater as the primary heat source.

AIR FOR COMBUSTION AND VENTILATION

⚠ WARNING: This heater shall not be installed in a confined space or unusually tight construction unless provisions are provided for adequate combustion and ventilation air. Read the following instructions to insure proper fresh air for this and other fuel-burning appliances in your home.

Today's homes are built more energy efficient than ever. New materials, increased insulation and new construction methods help reduce heat loss in homes. Home owners weather strip and caulk around windows and doors to keep the cold air out and the warm air in. During heating months, home owners want their homes as airtight as possible.

While it is good to make your home energy efficient, your home needs to breathe. Fresh air must enter your home. All fuel-burning appliances need fresh air for proper combustion and ventilation.

Exhaust fans, fireplaces, clothes dryers and fuel burning appliances draw air from the house to operate. You must provide adequate fresh air for these appliances. This will insure proper venting of vented fuel-burning appliances.

PROVIDING ADEQUATE VENTILATION

The following are excerpts from *National Fuel Gas Code, ANSI Z223.1/NFPA 54, Air for Combustion and Ventilation.*

All spaces in homes fall into one of the three following ventilation classifications:

1. Unusually Tight Construction
2. Unconfined Space
3. Confined Space

The information on pages 7 through 9 will help you classify your space and provide adequate ventilation.

Unusually Tight Construction

The air that leaks around doors and windows may provide enough fresh air for combustion and ventilation. However, in buildings of unusually tight construction, you must provide additional fresh air.

Unusually tight construction is defined as construction where:

a. walls and ceilings exposed to the outside atmosphere have a continuous water vapor retarder with a rating of one perm (6×10^{-11} kg per pa-sec-m^2) or less with openings gasketed or sealed and
b. weather stripping has been added on openable windows and doors and
c. caulking or sealants are applied to areas such as joints around window and door frames, between sole plates and floors, between wall-ceiling joints, between wall panels, at penetrations for plumbing, electrical and gas lines and at other openings.

If your home meets all of these three criteria, you must provide additional fresh air. See *Ventilation Air From Outdoors*, page 9.

If your home does not meet all of the three criteria above, proceed to *Determining Fresh-Air Flow For Heater Location*.

Confined and Unconfined Space

The National Fuel Gas Code, ANSI Z223.1/NFPA 54 defines a confined space as a space whose volume is less than 50 cubic feet per 1,000 Btu/hr (4.8 m^3 per kw) of the aggregate input rating of all appliances installed in that space and an unconfined space as a space whose volume is not less than 50 cubic feet per 1,000 Btu/hr (4.8 m^3 per kw) of the aggregate input rating of all appliances installed in that space. Rooms communicating directly with the space in which the appliances are installed*, through openings not furnished with doors, are considered a part of the unconfined space.

* Adjoining rooms are communicating only if there are doorless passageways or ventilation grills between them.

DETERMINING FRESH-AIR FLOW FOR HEATER LOCATION

Determining if You Have a Confined or Unconfined Space

Use this work sheet to determine if you have a confined or unconfined space.

Space: Includes the room in which you will install heater plus any adjoining rooms with doorless passageways or ventilation grills between the rooms.

1. Determine the volume of the space (length x width x height).

   Length x Width x Height =_____ cu. ft. (volume of space)

   Example: Space size 20 ft. (6.1 m) (length) x 16 ft. (4.88 m) (width) x 8 ft. (2.44 m) (ceiling height) = 2560 cu. ft. (72.49 m^3) (volume of space)

   If additional ventilation to adjoining room is supplied with grills or openings, add the volume of these rooms to the total volume of the space.

2. Multiply the space volume by 20 to determine the maximum Btu/Hr the space can support.

   _____(volume of space) x 20 = (Maximum Btu/Hr the space can support)

   Example: 2560 cu. ft. (72.49 m^3) (volume of space) x 20 = 51,200 (maximum Btu/Hr the space can support)

3. Add the Btu/Hr of all fuel burning appliances in the space.

Vent-free heater	_____	Btu/Hr
Gas water heater*	_____	Btu/Hr
Gas furnace	_____	Btu/Hr
Vented gas heater	_____	Btu/Hr
Gas fireplace logs	_____	Btu/Hr
Other gas appliances*	+_____	Btu/Hr
Total	=_____	Btu/Hr

   * Do not include direct-vent gas appliances. Direct-vent draws combustion air from the outdoors and vents to the outdoors.

   Example:

Gas water heater	30,000	Btu/Hr
Vent-free heater	+26,000	Btu/Hr
Total	=56,000	Btu/Hr

4. Compare the maximum Btu/Hr the space can support with the actual amount of Btu/Hr used.

   _____Btu/Hr (maximum can support)
   _____Btu/Hr (actual amount used)

   Example: 51,200 Btu/Hr (maximum the space can support)
   56,000 Btu/Hr (actual amount of Btu/Hr used)

The space in the above example is a confined space because the actual Btu/Hr used is more than the maximum Btu/Hr the space can support. You must provide additional fresh air. Your options are as follows:

A. Rework worksheet, adding the space of an adjoining room. If the extra space provides an unconfined space, remove door to adjoining room or add ventilation grills between rooms. See *Ventilation Air From Inside Building*.
B. Vent room directly to the outdoors. See *Ventilation Air From Outdoors*.
C. Install a lower Btu/Hr heater, if lower Btu/Hr size makes room unconfined. If the actual Btu/Hr used is less than the maximum Btu/Hr the space can support, the space is an unconfined space. You will need no additional fresh air ventilation.

⚠ WARNING: If the area in which the heater may be operated does not meet the required volume for indoor combustion air, combustion and ventilation air shall be provided by one of the methods described in the *National Fuel Gas Code, ANSI Z223.1/NFPA 54,* the *International Fuel Gas Code,* or applicable local codes.

VENTILATION AIR

Ventilation Air From Inside Building

This fresh air would come from an adjoining unconfined space. When ventilating to an adjoining unconfined space, you must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor on the wall connecting the two spaces (see options 1 and 2, Figure 2). You can also remove door into adjoining room (see option 3, Figure 2). Follow the *National Fuel Gas Code, ANSI Z223.1/NFPA 54, Air for Combustion and Ventilation* for required size of ventilation grills or ducts.

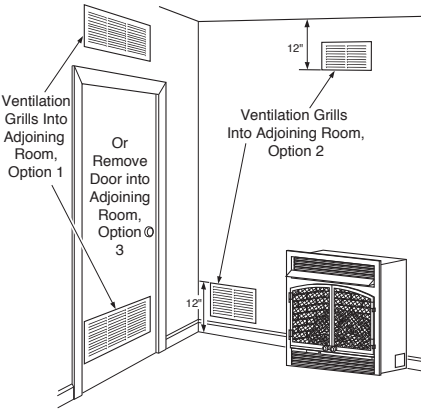

12"
Ventilation Grills Into Adjoining Room, Option 1
Or Remove Door into Adjoining Room, Option 3
Ventilation Grills Into Adjoining Room, Option 2
12"

Figure 2 - Ventilation Air from Inside Building

Ventilation Air From Outdoors

Provide extra fresh air by using ventilation grills or ducts. You must provide two permanent openings: one within 12" of the ceiling and one within 12" of the floor. Connect these items directly to the outdoors or spaces open to the outdoors. These spaces include attics and crawl spaces. Follow the *National Fuel Gas Code, ANSI Z223.1/NFPA 54, Air for Combustion and Ventilation* for required size of ventilation grills or ducts.

IMPORTANT: Do not provide openings for inlet or outlet air into attic if attic has a thermostat-controlled power vent. Heated air entering the attic will activate the power vent. Rework worksheet, adding the space of the adjoining unconfined space. The combined spaces must have enough fresh air to supply all appliances in both spaces.

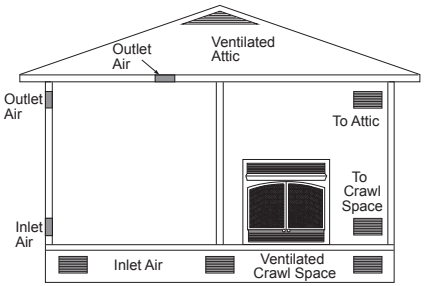


Figure 3 - Ventilation Air from Outdoors

NOTICE: This heater is intended for use as supplemental heat. Use this heater along with your primary heating system. Do not install this heater as your primary heat source. If you have a central heating system, you may run system's circulating blower while using heater. This will help circulate the heat throughout the house. In the event of a power outage, you can use this heater as your primary heat source.

⚠ WARNING: A qualified service person must install heater. Follow all local codes.

⚠ WARNING: Before installing in a solid fuel burning fireplace, the chimney flue and firebox must be cleaned of soot, creosote, ashes and loose paint by a qualified chimney cleaner. Creosote will ignite if highly heated. A dirty chimney flue may create and distribute soot within the house. Inspect chimney flue and firebox for damage. If damaged, repair flue before operating heater.

⚠ WARNING: Seal any fresh air vents or ash clean-out doors located on floor or wall of fireplace. If not, drafting may cause pilot outage or sooting. Use a heat-resistant sealant. Do not seal chimney flue damper.

⚠ WARNING: Never install the heater

- **in a bedroom or bathroom**
- **in a recreational vehicle**
- **where curtains, furniture, clothing, or other flammable objects are less than 42" from the front, top, or sides of the heater.**
- **in high traffic areas**
- **in windy or drafty areas**

⚠ CAUTION: This heater creates warm air currents. These currents move heat to wall surfaces next to heater. Installing heater next to vinyl or cloth wall coverings or operating heater where impurities (such as tobacco smoke, aromatic candles, cleaning fluids, oil or kerosene lamps, etc.) in the air exist, may discolor walls or cause odors.

This firebox can not be installed in a built-in fireplace. This firebox may only be installed in a Pro-Com Heating, Inc. mantel accessory approved for this product.

IMPORTANT: Vent-free heaters add moisture to the air. Although this is beneficial, installing heater in rooms without enough ventilation air may cause mildew to form too much moisture. See *Air for Combustion and Ventilation*, pages 6 through 8.

CHECK GAS TYPE

Be sure your gas supply is right for your heater. Otherwise, call dealer where you bought the heater for proper type heater.

GAS SELECTION

This appliance is factory preset for propane/LP gas. No changes are required for connecting to propane/LP. Only a qualified installer or service technician can perform gas selection and connecting to gas supply.

⚠ CAUTION: Two gas line installations at the same time are prohibited. The access plate to the simple switching means shall not be opened while the heater is in operation.

⚠ CAUTION: To avoid gas leakage at the inlet of regulator, a qualified installer or service technician must use supplied hex plug with sealant.

⚠ WARNING: Do not attempt to access or change the setting of the fuel selection means.

Access to and adjustment of the fuel selection means must only be performed by a qualified service person when connecting this appliance to a specified fuel supply at the time of installation.

Change of the selector setting to other than the fuel type specified at the time of installation could damage this appliance and render it inoperable.

The installer shall replace the access cover before completing the installation and operating this appliance.

For changing from propane to natural gas supply:

1. Remove bottom screw from cover plate located on back side of heater (see Figure 4). Rotate to expose fuel selection device.
2. For NATURAL GAS, press in knob using a flat screwdriver with a blade with thickness of a quarter and turn knob clockwise ↷ until the knob locks into the NG position (see Figure 5). Fuel selection device must be locked in the NG position. Do not operate heater between locked positions!
3. Rotate and close cover over fuel selection device and reinstall screws.
4. Remove hex plug (with wrench provided) from natural gas inlet of regulator (see Figure 5). Install gas line into NG inlet of regulator. Use thread sealant to assure there are no leaks.

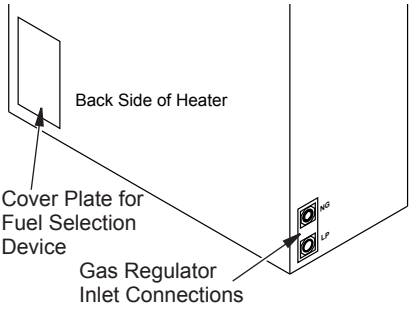


Figure 4 - Gas Control Locations

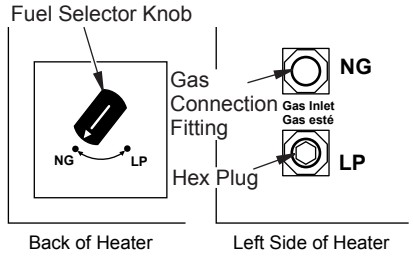


Figure 5 - Settings for Natural Gas Selection

For changing from natural gas supply to propane supply:

1. Remove bottom screw from cover plate located on left side of heater (see Figure 4, page 11). Rotate to expose fuel selection device.
2. For propane gas, press in knob using a flat screwdriver with a blade the thickness of a quarter and turn knob counterclockwise until the knob locks into the LP position (see Figure 6). Fuel selection device must be locked in the LP position. Do not operate heater between locked positions.
3. Rotate and close cover over fuel selection device and reinstall screw.
4. Remove hex plug (with wrench provided) from propane/LP gas inlet of regulator (see Figure 6). Install gas line into LP inlet of regulator. Use thread sealant to assure there are no leaks.

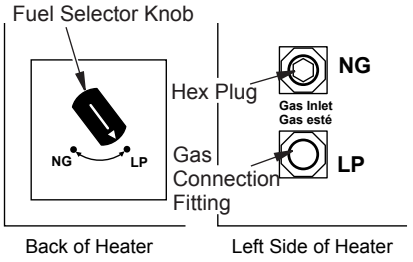


Figure 6 - Settings for Propane/LP Gas Selection

CLEARANCES TO COMBUSTIBLES

⚠ WARNING: You must maintain the minimum clearances. If possible, provide greater clearances from floor, ceiling, and adjoining wall. Measure from outermost point of heater.

Note: This firebox can not be installed in an existing fireplace. Install this firebox only in a ProCom Heating, Inc. mantel accessory approved for this product.

Minimum Clearances For Side Combustible Material, Side Wall and Ceiling

A. Clearance from the side of the fireplace to any combustible material and wall should not be less than 12" (see Figure 7).

B. Clearance from the top of the fireplace to the ceiling must not be less than 48".

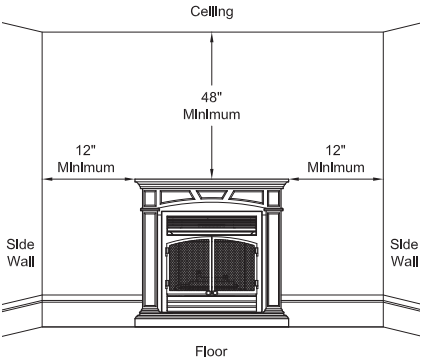


Figure 7 - Minimum Clearance for Combustible to Wall and Ceiling

CONNECTING TO GAS SUPPLY

⚠ WARNING: A qualified service technician must connect heater to gas supply. Follow all local codes.

⚠ WARNING: This appliance requires a 3/8" NPT (National Pipe Thread) inlet connection to the pressure regulator.

⚠ WARNING: Do not overtighten gas connections.

⚠ WARNING: For natural gas, Never connect heater to private (non-utility) gas wells. This gas is commonly known as wellhead gas.

⚠ CAUTION: For propane/LP gas, never connect heater directly to the gas supply. This heater requires an external regulator (not supplied). Install the external regulator between the heater and propane/LP supply. Gas supplier provides external regulator for natural gas. The installer provides the external regulator for propane/LP gas.

⚠ CAUTION: Use only new, black iron or steel pipe. Internally tinned copper tubing may be used in certain areas. Check your local codes. Use pipe of 1/2" diameter or greater to allow proper gas volume to heater. If pipe is too small, undue loss of pressure will occur.

⚠ CAUTION: For natural gas, check your gas line pressure before connecting heater to gas line. Gas line pressure must be no greater than 10.5" WC. If gas line pressure is higher, heater regulator damage could occur.

⚠ CAUTION: Avoid damage to regulator. Hold gas regulator with wrench when connecting into gas piping and/or fittings.

⚠ CAUTION: Use pipe joint sealant that is resistant to gas (Propane/LP or Natural Gas).

Before installing heater, make sure you have the items listed below:

- external regulator for propane/LP unit only (supplied by installer)
- piping (check local codes)
- sealant (resistant to natural gas and propane/LP gas)
- equipment shutoff valve*
- test gauge connection*
- sediment trap
- tee joint
- pipe wrench
- flexible gas hose (check local codes)

* A CSA design-certified equipment shutoff valve with 1/8" NPT tap is an acceptable alternative to test gauge connection. Purchase the optional CSA design certified equipment shutoff valve from your dealer.

Typical Inlet Pipe Diameters

Use 3/8" black iron pipe or greater. Installation must include an equipment shutoff valve, union, and plugged 1/8" NPT tap. Locate NPT tap within reach for test gauge hook up. NPT tap must be upstream from heater (see Figure 8).

IMPORTANT: Install an equipment shutoff valve in an accessible location. The equipment shutoff valve is for turning on or shutting off the gas to the appliance.

For propane/LP installations, apply pipe joint sealant lightly to male threads. This will prevent excess sealant from going into pipe. Excess sealant in pipe could result in clogged heater valves.

For propane/LP gas, the installer must supply an external regulator. The external regulator will reduce incoming gas pressure. You must reduce incoming gas pressure to between 11" and 14" of water. If you do not reduce incoming gas pressure, heater regulator damage could occur. Install external regulator with the vent pointing down as shown in Figure 9. Pointing the vent down protects it from freezing rain or sleet.

Install sediment trap in supply line as shown in Figure 8. Place sediment trap where it is within reach for cleaning. Place sediment trap where trapped matter is not likely to freeze. A sediment trap traps moisture and contaminants. This keeps them from going into heater controls. If sediment trap is not installed or is installed wrong, heater may not run properly.

⚠ WARNING: Test all gas piping and connections for leaks after installing or servicing. Correct all leaks at once (see page 15).

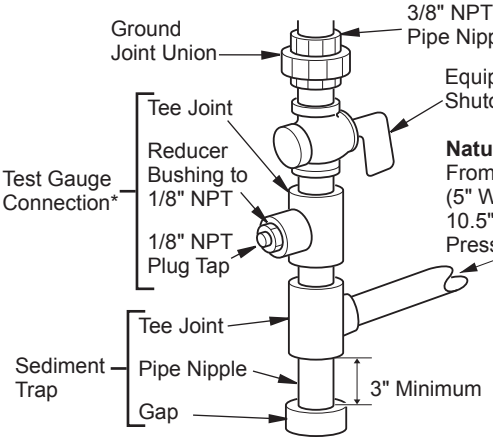


Figure 8 - Gas Connection

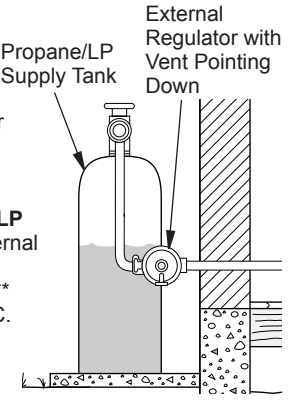


Figure 9 - External Regulator with Vent Pointing Down

* Purchase the optional CSA design-certified equipment shutoff valve from your dealer.

CHECKING GAS CONNECTIONS

⚠ WARNING: Test all gas piping and connections, internal and external to unit, for leaks after installing or servicing. Correct all leaks at once.

⚠ WARNING: Never use an open flame to check for a leak. Apply a noncorrosive leak detection fluid to all joints. If bubbles form, there is a leak. Correct all leaks at once.

PRESSURE TESTING GAS SUPPLY PIPING SYSTEM

Test Pressures In Excess Of 1/2 PSIG (3.5 kPa)

1. Disconnect heater with its appliance main gas valve (control valve) and equipment shutoff valve from gas supply piping system. Pressures in excess of 1/2 PSIG will damage heater regulator.
2. Cap off open end of gas pipe where equipment shutoff valve was connected.
3. Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas or opening main gas valve located on or near gas meter for natural gas or using compressed air.
4. Check all joints of gas supply piping system. Apply noncorrosive leak detection fluid to all joints. If bubbles form, there may be a leak.
5. Correct all leaks at once.
6. Reconnect heater and equipment shutoff valve to gas supply. Check reconnected fittings for leaks.

Test Pressures Equal To or Less Than 1/2 PSIG (3.5 kPa)

1. Close equipment shutoff valve (see Figure 10).
2. Pressurize supply piping system by either opening propane/LP supply tank valve for propane/LP gas or opening main gas valve located on or near gas meter for natural gas or using compressed air.
3. Check all joints from gas meter to equipment shutoff valve for natural gas or propane/LP supply to equipment shutoff valve for propane/LP (see Figure 11 or 12). Apply a noncorrosive leak detection fluid to all joints. Bubbles forming show a leak.
4. Correct all leaks at once.

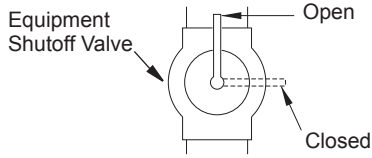


Figure 10 - Equipment Shutoff Valve

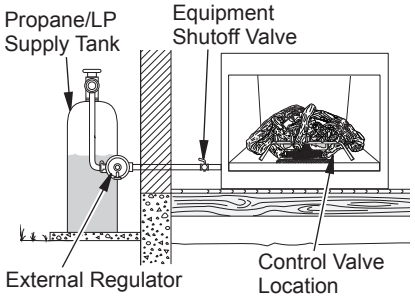


Figure 11 - Checking Gas Joints for Propane/LP Gas

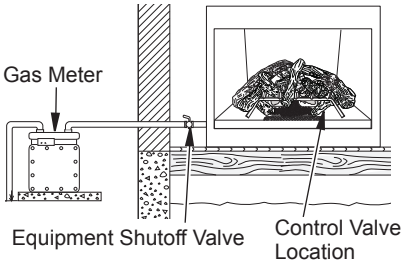


Figure 12 - Checking Gas Joints for Natural Gas

PRESSURE TESTING HEATER GAS CONNECTIONS

1. Open equipment shutoff valve (see Figure 10).
2. Open main gas valve located on or near gas meter for natural gas or open propane/LP supply tank valve.
3. Make sure control knob of heater is in the OFF position.
4. Check all joints from equipment shutoff valve to control valve (see Figure 11 or 12). Apply a noncorrosive leak detection fluid to all joints. Bubbles forming show a leak.
5. Correct all leaks at once.
6. Light heater (see *Lighting Instructions* on page 20). Check all other internal joints for leaks.
7. Turn off heater (see *To Turn Off Gas Appliance*, page 19 or 21).

INSTALLING LOGS

⚠ WARNING: Failure to position the parts in accordance with these diagrams or failure to use only parts specifically approved with this heater may result in property damage or personal injury.

⚠ CAUTION: After installation and periodically thereafter, check to ensure that no yellow flame comes in contact with any log. With the heater set to High, check to see if yellow flames contact any log. If so, reposition logs according to the log installation instructions in this manual. Yellow flames contacting logs will create soot.

It is very important to install the logs exactly as instructed. Do not modify logs. Use only logs supplied with heater. Each log is marked with a number. This number will help you to identify the logs when installing. After installing logs, add decorative cinders around the grate base, do not place any decorative cinders on logs or burner.

1. Install pins on log #1 into the two slots in the bracket attached to rear wall (see Figure 13).
2. Install pins on log #2 into the two slots in left side of the middle bracket (see Figure 13 and Figure 14).
3. Install pins on log #3 into the two slots in right side of the middle bracket (see Figure 13 and Figure 14).
4. Install pins on log #4 onto the two slots in the front bracket (see Figure 14 and Figure 15, page 17).
5. Insert the recessed hole on the bottom of log #5 onto the pin on log #2 (see Figures 15 and 16, page 17).
6. Insert the pin on log #6 into the hole on log #3 (see Figures 15 and 16, page 17).

IMPORTANT: Make sure logs do not cover any burner ports. It is very important to install the logs exactly as instructed. Do not modify logs. Use only logs supplied with heater.

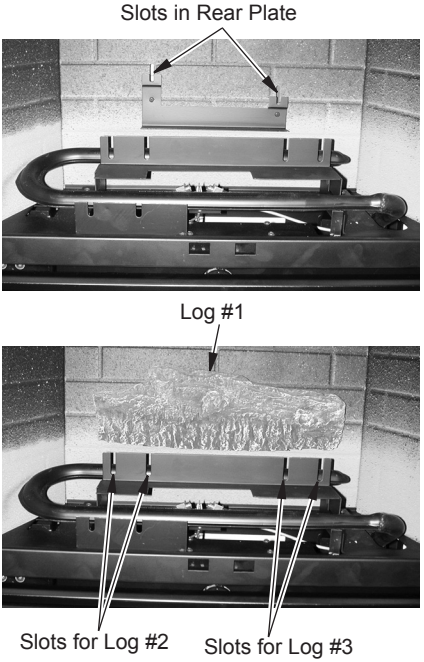


Figure 13 - Installing Log #1

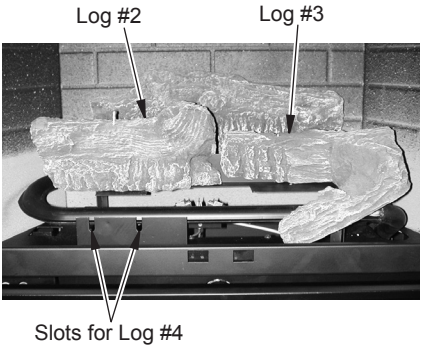


Figure 14 - Installing Logs #2 and #3

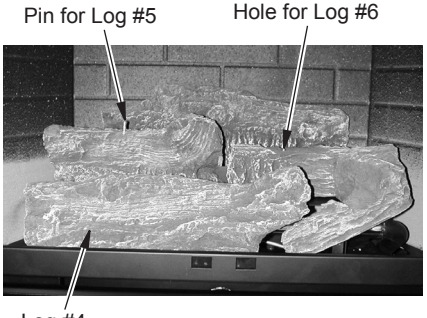


Figure 15 - Installing Log #4

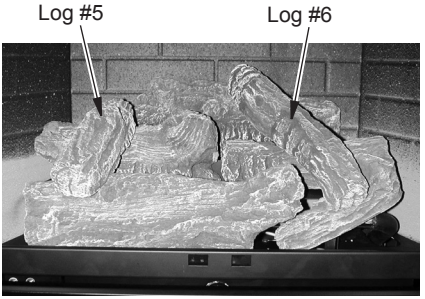


Figure 16 - Installing Log #5 and #6

INSTALLING BATTERIES

⚠ CAUTION: Do not mix old and new batteries. Do not mix alkaline, standard (carbon - zinc), or rechargeable (nickel - cadmium) batteries. Do not dispose of batteries in fire, batteries may explode or leak.

- Batteries are included.
- Remove batteries when depleted.
- Install/replace the batteries according to the type and quantity stated in table below.
- Do not mix old and new batteries. New batteries should be the same brand for best results.
- Be sure to observe proper polarity (+/-) when installing or replacing the batteries. Damage due to improper battery installation may void the warranty on the product.
- For remote control systems, maximize battery life by turning off the receiver when it is not in use.
- For long periods of non-operation, remove batteries from all components for safety.

Component	Type of Battery	Qty.
Ignitor	AAA	1
Remote Control	AAA	2 or 3*
Remote Receiver	AA	4

**Note: Quantity depends on model of remote control.*

Ignitor

Unscrew ignitor cap and install a AAA battery with the + pointing out. Replace cap.

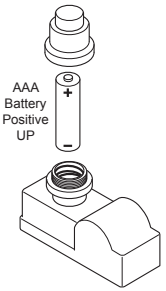


Figure 17 - Installing Battery in Ignitor

Receiver and Remote Control

Batteries are required in both the Remote Control (Transmitter) (2 AAA size) and Receiver (4 AA size) (see Figure 18).

Note: Be sure batteries are placed correctly. Reversing the batteries can cause damage to the receiver and remote. Replace all batteries on a yearly basis or sooner.

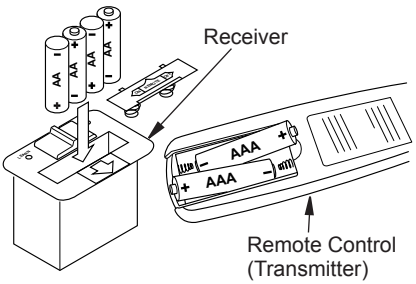


Figure 18 - Installing Batteries in Remote Control and Receiver

OPERATION

FOR YOUR SAFETY READ BEFORE LIGHTING

⚠ WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance has a pilot which must be lighted by hand. When lighting the pilot, follow these instructions exactly.

B. BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

WHAT TO DO IF YOU SMELL GAS

- **Do not try to light any appliance.**
- **Do not touch any electric switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

C. Use only your hand to push in or turn the gas control knob. Never use tools. If the knob will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

MODELS FBD400TCC-M-HC/MO
LIGHTING INSTRUCTIONS

⚠ WARNING: You must operate this heater with the screen in place. Make sure screen is installed before running heater.

NOTICE: During initial operation of new heater, burning logs will give off a paper-burning smell. Orange flame will also be present. Open damper or window to vent smell. This will only last a few hours.

1. STOP! Read the safety information above.
2. Open screen.
3. Make sure equipment shutoff valve is fully open.
4. Turn control knob clockwise ↷ to the OFF position (see Figure 19).
5. Wait five (5) minutes to clear out any gas. Then smell for gas around heater and near the floor. If you smell gas, STOP! Follow "B" in the safety information above. If you do not smell gas, go to the next step.
6. Turn control knob counterclockwise ↶ to the PILOT position. Press in control knob for five (5) seconds.

Note: The first time that the heater is operated after connecting the gas supply, the control knob should be pressed for about thirty (30) seconds. This will allow air to bleed from the gas system. If pilot does not stay lit, refer to Troubleshooting, pages 27 though 29. Also contact a qualified service technician or gas supplier for repairs. Until repairs are made, light pilot with match.

- If control knob does not pop up when released, contact a qualified service technician or gas supplier for repairs.

Figure 19 - Heater Control Locations

7. With control knob pressed in, push down and release ignitor button. This will light pilot. The pilot is attached to the rear of the burner. If needed, keep pressing ignitor button until pilot lights. *Note: If pilot does not stay lit, refer to Troubleshooting, pages 27 though 29. Also contact a qualified service technician or gas supplier for repairs. Until repairs are made, light pilot with match. To light pilot with match, see Manual Lighting Procedure.*
8. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
   Note: If pilot goes out, repeat steps 5 through 8. This heater has a safety interlock system. Wait one (1) minute before lighting pilot again.
9. Turn control knob counterclockwise to the desired heating level. The main burner should light. Set control knob between High (5) and Low (1).
   Note: Please wait one minute after shutting off heater to allow the control valve to reset before starting again.
10. Make sure heater screen is in place before operating heater.
11. If heater will not operate, follow the instructions *To Turn Off Gas To Appliance*, and call your service technical or gas supplier.

⚠ CAUTION: Do not try to adjust heating levels by using the equipment shutoff valve.

⚠ WARNING: If input gas type is NG, make sure NG pilot burner ignites. If input gas type is LP, make sure LP pilot burner ignites.

THERMOSTATIC CONTROL OPERATION

The thermostat sensing bulb measures the temperature (depending on housing construction). The thermostatic control used on this model differs from standard thermostats. Standard thermostats simply turn the burner on and off. The thermostat used on this heater senses the room temperature. At times the room may exceed the set temperature. If so, the burner will shut off. The burner will cycle back on when room temperature drops below the set temperature. The control knob can be set to any comfort level between High (5) and Low (1).

TO TURN OFF GAS TO APPLIANCE

Shutting Off Heater

Turn control knob clockwise to the OFF position.

Shutting Off Burner Only (pilot stays lit)

Turn control knob clockwise to the PILOT position.

MANUAL LIGHTING PROCEDURE

1. Open screen.
2. Follow steps 1 through 8 under *Lighting Instructions*, page 18.
3. With control knob in the PILOT position, strike a match, and hold near pilot. Press in control knob; pilot should light.
4. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
5. Make sure the heater screen is in place before operating heater.

MODELS FBD400RTCC-M-HC/MO
LIGHTING INSTRUCTIONS

⚠ WARNING: You must operate this heater with the screen in place. Make sure screen is installed before running heater.

NOTICE: During initial operation of new heater, burning logs will give off a paper-burning smell. Orange flame will also be present. Open damper or window to vent smell. This will only last a few hours.

1. STOP! Read the safety information, page 18.
2. Open screen.
3. Make sure equipment shutoff valve is fully open.
4. Be sure the slide switch on the front of the receiver box is in the REMOTE position.
5. Push in control knob slightly and turn clockwise ↷ to the OFF position (see Figure 20).
6. Wait five (5) minutes to clear out any gas. Then smell for gas around heater and near the floor. If you smell gas, STOP! Follow "B" in the safety information, page 18. If you do not smell gas, go to the next step.
7. Push in control knob slightly and turn counterclockwise ↶ to the PILOT position. Press in control knob for five (5) seconds.
   Note: The first time that the heater is operated after connecting the gas supply, the control knob should be pressed for about thirty (30) seconds. This will allow air to bleed from the gas system. If pilot does not stay lit, refer to Troubleshooting, pages 27 though 29. Also contact a qualified service technician or gas supplier for repairs. Until repairs are made, light pilot with match.
   - If control knob does not pop up when released, contact a qualified service technician or gas supplier for repairs.
8. With control knob pressed in, push down and release ignitor button. This will light pilot. The pilot is attached to the rear of the burner. If needed, keep pressing ignitor button until pilot lights.
   Note: If pilot does not stay lit, refer to Troubleshooting, pages 27 though 29. Also contact a qualified service technician or gas supplier for repairs. Until repairs are made, light pilot with match. To light pilot with match, see Manual Lighting Procedure, page 21.
9. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
   Note: If pilot goes out, repeat steps 7 through 11. This heater has a safety interlock system. Wait one (1) minute before lighting pilot again.
10. Turn control knob counterclockwise ↶ to the ON position. The main burner should light.
    Note: Please wait one minute after shutting off heater to allow the control valve to reset before starting again.
11. Press the LEARN button on the front of the remote receiver box until you hear a beep (see page 21).
12. Press teh ON button on the remote control to light the burner. (This will also "learn" or program the remote and receiver.)
    Note: If the remote control is lost or damaged, the slide switch on the receiver can be used to operate the heater.
13. Make sure heater screen is in place before operating heater.
14. If heater will not operate, follow the instructions *To Turn Off Gas To Appliance*, and call your service technical or gas supplier.

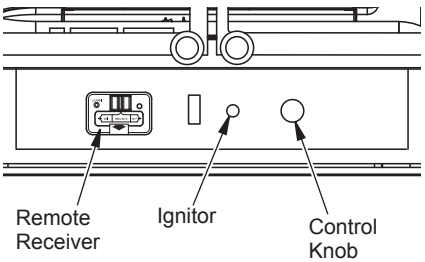


Figure 20 - Heater Control Locations

⚠ CAUTION: Do not try to adjust heating levels by using the equipment shutoff valve.

⚠ WARNING: If input gas type is NG, make sure NG pilot burner ignites. If input gas type is LP, make sure LP pilot burner ignites.

TO TURN OFF GAS TO APPLIANCE

Shutting Off Heater

Turn control knob clockwise ↷ to the OFF position.

Shutting Off Burner Only (pilot stays lit)

Turn control knob clockwise ↷ to the PILOT position.

MANUAL LIGHTING PROCEDURE

1. Open screen.
2. Follow steps 1 through 7 under *Lighting Instructions*, page 20.
3. With control knob in the PILOT position, strike a match, and hold near pilot. Press in control knob; pilot should light.
4. Keep control knob pressed in for 30 seconds after lighting pilot. After 30 seconds, release control knob.
5. Make sure the heater screen is in place before operating heater.

REMOTE CONTROL SYSTEM

Programming the Remote and Receiver

The remote and receiver must be "learned" to one another.

1. Turn control knob on the heater to the ON position.
2. Place the slide switch on the receiver in the remote position (see Figure 21).
3. Use a pen or small screwdriver to gently press and release the recessed LEARN button on the face of the receiver. You will hear a beep.
4. Press the ON button on the remote (see Figure 22, page 22). You will hear a series of beeps. Your appliance should come on.

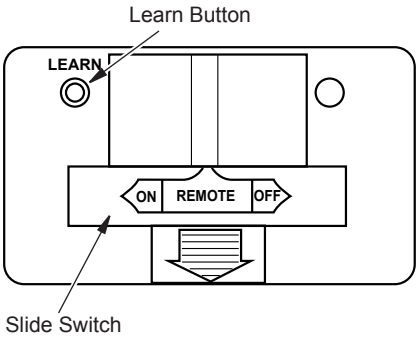


Figure 21 - Receiver

Matching Security Codes

When matching security codes, be sure slide switch on the receiver is in the REMOTE position. To program the remote receiver to LEARN a new security code, press and release the LEARN button on the top of the remote receiver, and then press ON or OFF button on the transmitter. A change in the beeping pattern at the receiver, indicates the transmitter's code has been programmed into the receiver.

Remote Control Operation

This appliance must not be used with glass doors in the closed position. This can lead to pilot outages and severe sooting outside the fireplace.

The transmitter operates on 2 AAA batteries.

Key Settings

ON - Operates unit to on position, manually operated solenoid ON.

OFF - Operates unit to off position, manually operated solenoid OFF.

MODE - Changes unit from manual mode to thermo mode.

SET - Sets temperature in thermo mode.

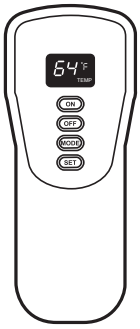


Figure 22 - Remote Control

LCD Liquid Crystal Display

1. **DISPLAY** Indicates CURRENT room temperature.
2. **°F or °C** Indicates degrees Fahrenheit or Celsius.
3. **FLAME** Indicates burner/valve in operation.
4. **ROOM** Indicates remote is in THERMO operation.
5. **TEMP** Appears during manual operation.
6. **SET** Appears during time the of setting the desired temperature in the thermo operation.

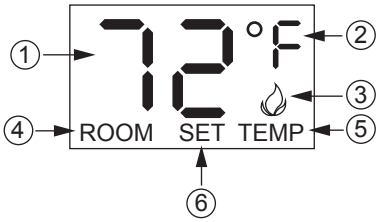


Figure 23 - Remote Control Display

Setting°F/°C Scale

The factory setting for temperature is °F. To change this setting to °C, press the ON key and the OFF key on the remote control at the same time (see Figure 22). This will change from °F to °C. Follow this same procedure to change from °C back to °F.

Manual Function

To operate the system in the manual “MODE” do the following.

ON OPERATION

Press the ON key and the appliance flame will come on. During this time the LCD screen will show ON (see Figure 24).

After 3 seconds the LCD screen will default to display room temperature and the word TEMP will show (see Figure 24). The flame icon will appear on LCD screen in manual on mode.

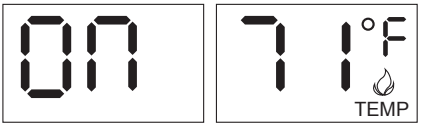


Figure 24 - Manual Mode in ON Operation

OFF OPERATION

Press the OFF key and the appliance flame will shut off. During this time the LCD screen will show OF (see Figure 25).

After 3 seconds the LCD screen will default to display room temperature and the word TEMP will show (see Figure 25).

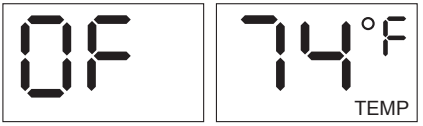


Figure 25 - Manual Mode in OFF Operation

THERMOSTAT FUNCTION

Setting Desired Room Temperature

The remote control system can control the thermostat when the transmitter is in the THERMO mode. The word ROOM must be displayed on the screen.

To set the THERMO MODE and desired room temperature:

1. Press the MODE key until the LCD screen shows the word ROOM. The remote is now in the thermostatic mode.
2. Press and hold the SET key until the desired set temperature is reached. The LCD screen set numbers will increase from 45° to 99° and then restart over at 45°.
3. Release the SET key. The LCD screen will display the set temperature for 3 seconds, then flash the set temperature for 3 seconds, then LCD screen will default to display the room temperature.

To Change The Set Temperature

1. Press and hold the SET key until the desired set temperature is reached. The LCD screen set numbers will increase from 45° to 99° then restart over at 45°.
2. Release the SET key. The LCD screen will display the set temperature for 3 seconds, then flash the set temperature for 3 seconds, then the LCD screen will default to display the room temperature.
3. Press the MODE key to disengage the thermo mode. The word ROOM on the LCD screen will not show when the thermo is not in operation.

   Note: The highest SET temperature is 99°F (32 °C) and the lowest temperature is 45°F (6°C).

REMOTE CONTROL OPERATION NOTES

The Thermo Feature on the transmitter operates the appliance whenever the ROOM TEMPERATURE varies a certain number of degrees from the SET TEMPERATURE.

This variation is called the “swing” or temperature differential. The normal operating cycle of an appliance may be 4 times per hour depending on how well the room or home is insulated from the cold or drafts. The factory setting for the “swing number” is 2. This represents a temperature variation of +/-2°F (1°C) between SET temperature and ROOM temperature, which determines when the fireplace will be activated. The transmitter has ON and OFF manual functions that are activated by pressing either button on the face of the transmitter. When a button on the transmitter is pressed the word ON or OF will appear on the LCD screen to show while the signal is being sent. Upon initial use, there may be a delay of three seconds before the remote receiver will respond to the transmitter. This is part of the system’s design.

INSPECTING BURNERS

IMPORTANT: Owner's should check pilot flame pattern and burner flame pattern often. Incorrect flame patterns indicate the need for cleaning (see Care and Maintenance, page 25) or service.

⚠ WARNING: Only a qualified service person should service and repair heater. This includes maintenance requiring replacement or alteration of components.

PILOT FLAME PATTERN

Figure 26 shows a correct pilot flame pattern. Figure 27 shows an incorrect pilot flame pattern. The incorrect pilot flame is not touching the thermocouple. This will cause the thermocouple to cool, which shuts the heater off.

If pilot flame pattern is incorrect, as shown in Figure 27

- turn heater off (see *To Turn Off Gas to Appliance*, page 19 or 21)
- see *Troubleshooting* pages 27 through 29.

⚠ WARNING: If yellow tipping occurs, your heater could produce increased levels of carbon monoxide. If the burner flame pattern shows yellow tipping, follow instructions at bottom of this page.

Notice: *Do not mistake orange flames with yellow tipping. Dirt or other fine particles enter the heater and burn causing brief patches of orange flame.*

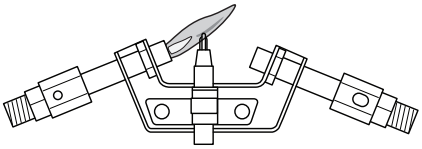


Figure 26 - Correct Pilot Flame Pattern (Natural Gas shown)

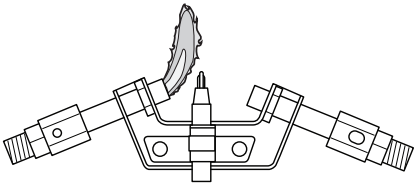


Figure 27 - Incorrect Pilot Flame Pattern (Natural Gas shown)

BURNER FLAME PATTERN

Figure 28 shows a correct burner flame pattern. Figure 29 shows an incorrect burner flame pattern. If burner flame pattern is incorrect then:

- turn heater off (see *To Turn Off Gas to Appliance*, page 19 or 21).
- see *Troubleshooting* pages 24 through 26.

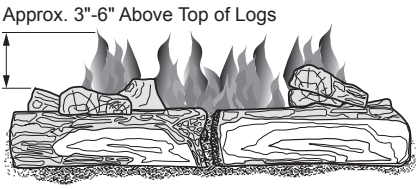


Figure 28 - Correct Burner Flame Pattern

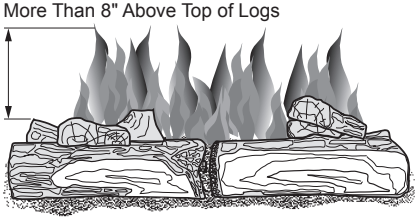


Figure 29 - Incorrect Burner Flame Pattern

BURNER PRIMARY AIR HOLES

Air is drawn into the burner through the holes in the fitting at the entrance to the burner. These holes may become blocked with dust or lint. Periodically inspect these holes for any blockage and clean as necessary. Blocked air holes will create soot.

CARE AND MAINTENANCE

⚠ WARNING: Turn off heater and let cool before servicing.

⚠ CAUTION: You must keep control areas, burner, and circulating air passageways of heater clean. Inspect these areas of heater before each use. Have heater inspected yearly by a qualified service technician. Heater may need more frequent cleaning due to excessive lint from carpeting, bedding material, pet hair, etc.

⚠ WARNING: Failure to keep the primary air opening(s) of the burner(s) clean may result in sooting and property damage.

MAIN BURNER

Periodically inspect all burner flame holes with the heater running. All slotted burner flame holes should be open with yellow flame present. All round burner flame holes should be open with a small blue flame present. Some burner flame holes may become blocked by debris or rust, with no flame present. If so, turn off the heater and let it cool, and remove blockage or replace burner. Blocked burner flame holes will create soot.

BURNER INJECTOR HOLDER AND PILOT AIR INLET HOLE

We recommend that you clean the unit every 2,500 hours of operation or every three months. We also recommend that you keep the burner tube and pilot assembly clean and free of dust and dirt. To clean these parts we recommend using compressed air no greater than 30 PSI. Your local computer store, hardware store, or home center may carry compressed air in a can. You can use a vacuum cleaner in the blow position. If using compressed air in a can, please follow the directions on the can. If you don't follow directions on the can, you could damage the pilot assembly.

1. Shut off the unit, including the pilot. Allow the unit to cool for at least thirty minutes.
2. Inspect burner, pilot and primary air inlet holes on injector for dust and dirt (see Figure 30).
3. Blow air through the ports/slots and holes in the burner. Also clean the pilot assembly.
4. Check the injector holder located at the end of the burner tube again. Remove any large particles of dust, dirt, lint, or pet hair with a soft cloth or vacuum cleaner nozzle.
5. Blow air into the primary air holes on the injector holder.
6. In case any large clumps of dust have now been pushed into the burner. Repeat steps 3 and 4.

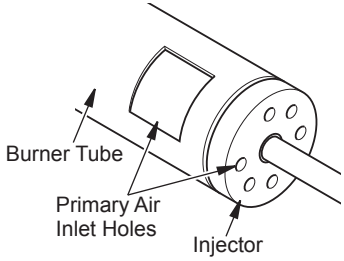


Figure 30 - Burner and Injector Holder

ODS/PILOT

Use a vacuum cleaner, pressurized air, or a small, soft bristled brush to clean.

A yellow tip on the pilot flame indicates dust and dirt in the pilot assembly. There is a small pilot air inlet hole about 2" from where the pilot flame comes out of the pilot assembly (see Figure 31). With the unit off, lightly blow air through the air inlet hole. You may blow through a drinking straw if compressed air is not available.

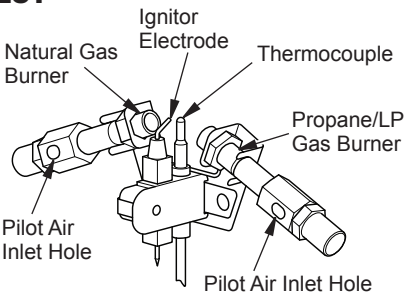


Figure 31 - Pilot Inlet Air Hole

CABINET

Air Passageways

Use a vacuum cleaner or pressurized air to clean.

Exterior

- Use a soft cloth dampened with a mild soap and water mixture.
- Wipe the cabinet to remove dust.

LOGS

- If you remove logs for cleaning, refer to *Installing Logs*, page 16, to properly replace logs.
- Replace log(s) if broken or chipped (dime-size or larger).

TROUBLESHOOTING

⚠ WARNING: If you smell gas:
- **Shut off gas supply.**
- **Do not try to light any appliance.**
- **Do not touch any electrical switch; do not use any phone in your building.**
- **Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.**
- **If you cannot reach your gas supplier, call the fire department.**

⚠ WARNING: Only a qualified service technician should service and repair heater. Make sure that power is turned off before proceeding. Turn off and let cool before servicing.

⚠ CAUTION: Never use a wire, needle, or similar object to clean ODS/pilot. This can damage ODS/ pilot unit.

IMPORTANT: Operating heater where impurities in air exist may create odors. Cleaning supplies, paint, paint remover, cigarette smoke, cements and glues, new carpet or textiles, etc., create fumes. These fumes may mix with combustion air and create odors.

Note: All troubleshooting items are listed in order of operation.

Problem	Possible Cause	Corrective Action
When ignitor button is pressed in, there is no spark at ODS/pilot.	1. Ignitor electrode is positioned wrong. Ignitor electrode is broken. 2. Ignitor electrode is not connected to ignitor cable. 3. Ignitor cable is pinched or wet. 4 Broken ignitor cable. 5. Bad piezo ignitor. 6. Low battery.	1. Replace electrode. 2. Replace ignitor cable. 3. Free ignitor cable if pinched by any metal or tubing. Keep ignitor cable dry. 4. Replace ignitor cable. 5. Replace piezo ignitor. 6. Replace battery.
When ignitor button is pressed in there is a spark at ODS/pilot but no ignition.	1. Gas supply is turned off or equipment shutoff valve is closed. 2. Control knob not fully pressed in while pressing ignitor button. 3. Air in gas lines (new installation or recent gas interruption). 4. ODS / pilot is clogged. 5. Incorrect inlet gas pressure r inlet regulator is damaged. 6. Control knob not in PILOT position. 7. Depleted gas supply (propane).	1. Turn on gas supply or open equipment shutoff valve. 2. Fully press in control knob while pressing ignitor button. 3. Continue holding down control knob. Repeat igniting operation until air is removed. 4. Clean ODS/pilot (see *Care and Maintenance*, page 25) or replace ODS/pilot assembly. 5. Check inlet gas pressure or replace inlet gas regulator. 6. Turn control knob to PILOT position. 7. Contact local propane/LP gas company.

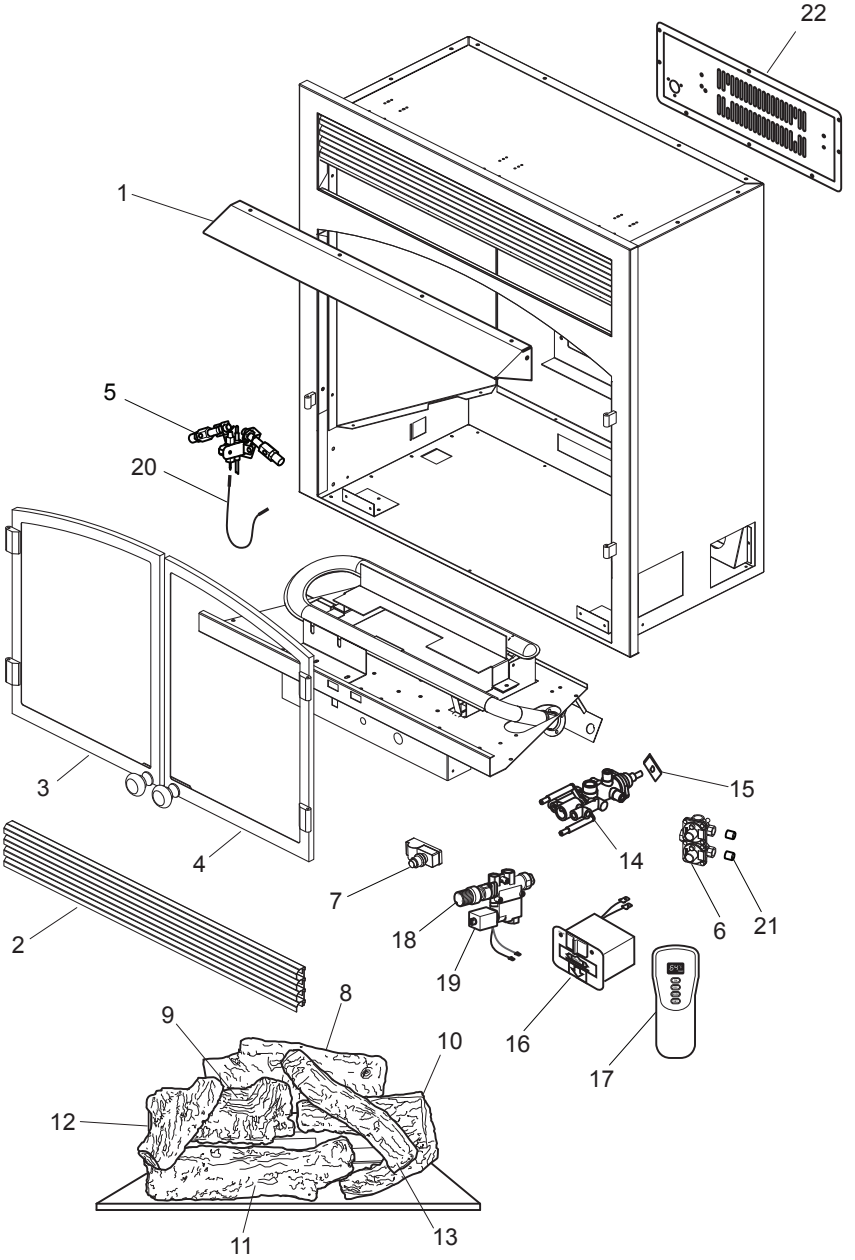
TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
ODS/pilot lights but flame goes out when control knob is released.	1. Control knob is not fully pressed in. 2. Control knob is not pressed in long enough. 3. Equipment shutoff valve is not fully open. 4. Thermocouple connection is loose at control valve. 5. Pilot flame not touching thermocouple, which allows thermocouple to cool, causing pilot flame to go out. This problem could be caused by one or both of the following: A) Low gas pressure B) Dirty or partially clogged ODS/pilot 6. Thermocouple damaged. 7. Control valve damaged.	1. Press in control knob fully. 2. After ODS/pilot lights, keep control knob pressed in 30 seconds. 3. Fully open equipment shutoff valve. 4. Hand tighten until snug, and then tighten 1/4 turn more. 5. A) Contact local natural or propane/LP gas company B) Clean ODS/pilot (see *Care and Maintenance*, page 25) or replace ODS/pilot assembly 6. Replace thermocouple. 7. Replace control valve.
Burner does not light after ODS/pilot is lit.	1. Burner orifice is clogged. 2. Burner orifice diameter is too small. 3. Inlet gas pressure is too low.	1. Clean burner orifice (see *Care and Maintenance*, page 25) or replace burner orifice. 2. Replace burner orifice. 3. Contact local gas supplier.
Delayed ignition of burner.	1. Manifold pressure is too low. 2. Burner orifice is clogged.	1. Contact local gas supplier. 2. Clean burner (see *Care and Maintenance*, page 25) or replace burner orifice.
Burner backfiring during combustion.	1. Burner orifice is clogged or damaged. 2. Burner is damaged. 3. Gas regulator is damaged.	1. Clean burner orifice (see *Care and Maintenance*, page 25) or replace burner orifice. 2. Replace burner. 3. Replace gas regulator.
High yellow flame during burner combustion.	1. Not enough air. 2. Gas regulator is defective. 3. Inlet gas pressure is too low.	1. Check burner for dirt and debris. If found, clean burner (see *Care and Maintenance*, page 25). 2. Replace gas regulator. 3. Contact local gas supplier.
Gas odor during combustion.	1. Foreign matter between control valve and burner. 2. Gas leak. (See *Warning Statement* at top of page 27).	1. Contact a qualified service technician to remove foreign matter. 2. Locate and correct all leaks (see *Checking Gas Connections*, page 15).

TROUBLESHOOTING

Problem	Possible Cause	Corrective Action
Slight smoke or odor during initial operation.	1. Residues from manufacturing process.	1. Problem will stop after a few hours of operation.
Heater produces a whistling noise when burner is lit.	1. Turning control knob to high position when burner is cold. 2. Air in gas line. 3. Air passageways on heater are blocked. 4. Dirty or partially clogged burner orifice.	1. Turn control knob to low position and let warm up for a minute. 2. Operate burner until air is removed from line. Have gas line checked by local gas supplier. 3 Observe minimum installation clearances (Figure 7, page 12). 4 Clean burner (see *Care and Maintenance*, page 25) or replace burner orifice.
Heater produces a clicking/ticking noise just after burner is lit or shut off.	1. Metal is expanding while heating or contracting while cooling.	1. This is common with most heaters. If noise is excessive, contact qualified service technician.
White powder residue forming within burner box or on adjacent walls or furniture.	1. When heated, the vapors from furniture polish, wax, carpet cleaners, etc., turn into white powder residue.	1. Turn heater off when using furniture polish, wax, carpet cleaner or similar products.
Heater produces unwanted odors.	1. Heater is burning vapors from paint, hair spray, glues, etc. See *IMPORTANT* statement, page 27. 2. Gas leak. See *Warning Statement* at the top of page 27. 3 Low fuel supply.	1. Open a window to ventilate room. Stop using odor causing products while heater is running. 2. Locate and correct all leaks (see *Checking Gas Connections*, page 15). 3. Refill supply tank (Propane/LP models).
Heater shuts off in use (ODS operates).	1. Not enough fresh air is available. 2. Low line pressure. 3. ODS/pilot is partially clogged.	1. Open window and/or door for ventilation. 2. Contact local gas supplier. 3. Clean ODS/pilot (see *Care and Maintenance*, page 25).
Gas odor exists even when control knob is in OFF position.	1. Gas leak. See *Warning Statement* at top of page 27. 2. Control valve is defective.	1. Locate and correct all leaks (see *Checking Gas Connections*, page 15). 2. Contact customer service.
Moisture/condensation noticed on windows.	1. Not enough combustion/ventilation air.	1. Refer to *Air for Combustion and Ventilation* requirements, page 7.

MODELS FBD400RTCC-M-HC/MO
FBD400TCC-M-HC/MO



MODELS FBD400RTCC-M-HC/MO
FBD400TCC-M-HC/MO

This list contains replaceable parts used in your heater. When ordering parts, follow the instructions listed under *Replacement Parts* on page 32 of this manual.

ITEM	FBD400TCC	FBD400RTCC-2	DESCRIPTION	QTY
1	FHL008-02D	FHL008-02D	Hood	1
2	FBB102	FBB102	Louver	1
3	FBB104BL	FBB104BL	Left Door Assembly	1
4	FBB104BR	FBB104BR	Right Door Assembly	1
5	NDD308-400	NDD308-400	ODS Pilot	1
6	RV83FI-4/9	RV83FI-4/9	Regulator	1
7	PIMSC1-01	PIMSC1-01	ignitor	1
8	HL041-01	HL041-01	Log 1	1
9	HL042-01	HL042-01	Log 2	1
10	HL043-01	HL043-01	Log 3	1
11	HL044-01	HL044-01	Log 4	1
12	HL045-01	HL045-01	Log 5	1
13	HL045-02	HL045-02	Log 6	1
14	YDF06-FBD32RT	YDF06-FBD32RT	Fuel Selection Device Assembly	1
15	MDL304B	MDL304B	Fuel Selection Device Knob	1
16	------	RG04-1M	Receiver	1
17	------	RG04-1T	Remote Control	1
18	------	MRT-01	Control Valve	1
19	------	OD-CO889-11	Solenoid	1
20	ML073-04	ML073-04	Ignitor Cable	1
21	PF120820	PF120820	Regulator Plug	2
22	BL016-07-01	BL016-07-01	Blower Access Panel	1
PARTS AVAILABLE - NOT SHOWN				
	FBD400T001	FBD400R001	Hardware Package	1
	ML064-01	ML064-01	Accessory Set	1
	PCAM-012	PCAM-012	AAA Battery	1/3
	------	PCAM-018	AA Battery	4
	FB28D20	FB28D20	Hex Wrench	1

REPLACEMENT PARTS

Note: Use only original replacement parts. This will protect your warranty coverage for parts replaced under warranty.

PARTS UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement parts, call Customer Service toll free at 1-866-573-0674 for referral information.

When calling Customer Service or your dealer, have ready:

- Your name
- Your address
- Model and serial number of your heater
- How heater was malfunctioning
- Type of gas used (Propane/LP or Natural gas/NG)
- Purchase date
- Usually, we will ask you to return the defective part to the factory

PARTS NOT UNDER WARRANTY

Contact authorized dealers of this product. If they can't supply original replacement part(s) call Customer Service toll free at 1-866-573-0674 for referral information.

When calling Customer Service have ready:

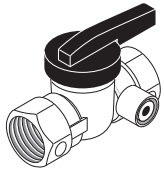
- Model number of your heater
- The replacement part number

ACCESSORIES

Purchase these heater accessories from your local dealer. If they can not supply these accessories, contact ProCom Heating, Inc. at 1-866-573-0674 for information.

EQUIPMENT SHUTOFF VALVE

For all models. Equipment shutoff valve with 1/8" NPT tap.



SERVICE HINTS

When Gas Pressure Is Too Low

- pilot will not stay lit
- burners will have delayed ignition
- fireplace will not produce specified heat
- propane/LP gas supply might be low (propane/LP units only)

You may feel your gas pressure is too low. If so, contact your local gas supplier.

TECHNICAL SERVICE

You may have further questions about installation, operation, or troubleshooting. If so, contact ProCom Heating, Inc. at 1-866-573-0674.

When calling, please have your model and serial numbers of your heater ready.

NOTES

NOTES

WARRANTY

KEEP THIS WARRANTY

Model _____

Serial No. _____

Date Purchased _____

Keep receipt for warranty verification.

REGISTER YOUR PRODUCT AT WWW.USAPROCOM.COM

IMPORTANT: We urge you to register your product within 10 days of date of installation, complete with entire serial number which can be found on the rating plate. Please fill out the warranty information above for your personal records. Retain this manual for future reference.

Always specify model and serial numbers when communicating with customer service.

We reserve the right to amend these specifications at any time without notice. The only warranty applicable is our standard written warranty. We make no other warranty, expressed or implied.

LIMITED WARRANTY

ProCom Heating, Inc. warrants this product to be free from defects in materials and components for ONE (1) year from the date of first purchase, provided that the product has been properly installed by a qualified installer in accordance with all local codes and instructions furnished with the unit, operated and maintained in accordance with all applicable instructions. To make a claim under this warranty, the Bill of Sale or cancelled check must be presented.

RESPONSIBILITY OF OWNER

This warranty is extended only to the original retail purchaser. This warranty covers the cost of part(s) required to restore this heater to proper operating condition. Warranty part(s) MUST be obtained through ProCom Heating, Inc. who will provide original factory replacement parts. Failure to use original factory replacement parts voids this warranty. The heater MUST be installed by a qualified installer in accordance with all local codes and instructions furnished with the unit.

WHAT IS NOT COVERED

This warranty does not apply to parts that are not in original condition because of normal wear and tear or parts that fail or become damaged as a result of misuse, accidents, lack of proper maintenance or defects caused by improper installation. Travel, diagnostic cost, labor, transportation and any and all such other costs related to repairing a defective heater will be the responsibility of the owner.

TO THE FULL EXTENT ALLOWED BY THE LAW OF THE JURISDICTION THAT GOVERNS THE SALE OF THE PRODUCT, THIS EXPRESS WARRANTY EXCLUDES ANY AND ALL OTHER EXPRESSED WARRANTIES AND LIMITS THE DURATION OF ANY AND ALL IMPLIED WARRANTIES. INCLUDING WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE TO TWO (2) YEARS ON ALL COMPONENTS FROM THE DATE OF FIRST PURCHASE. PROCOM HEATING, INC.'S LIABILITY IS HEREBY LIMITED TO THE PURCHASE PRICE OF THE PRODUCT AND PROCOM HEATING, INC. SHALL NOT BE LIABLE FOR ANY OTHER DAMAGES WHATSOEVER INCLUDING INDIRECT. INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow a limitation on how long an implied warranty lasts or an exclusion or limitation of accidental or consequential damages, the above limitation on implied warranties, or exclusion or limitation on damages may not apply to you.

This warranty gives you specific legal right, and you may also have other rights that vary from state to state.

PROCOM

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Bowling Green, KY 42101
www.usaprocom.com
1-866-573-0674

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